Response to Office Action of May 17, 2005

Attorney Docket: EQUUS-094A

## **Listing of Claims:**

This listing of claims will replace all prior versions and listings of claims in the application

- 1. (Currently Amended) A compression gauge assembly for diagnosing pressure variances of an engine cylinder(s), the assembly comprising:
  - a) a gauge sensor in communication with the engine cylinder(s), the gauge sensor being operative to detect compression stroke pressures within the cylinder(s);
  - b) a gauge controller in communication with the gauge sensor, the gauge controller including a comparator circuit operative to compare detected compression stroke pressures within the cylinder(s) and to derive the pressure variances therebetween; and
  - c) a gauge display in communication with the gauge controller for displaying the derived pressure variances; and[[.]]
  - d) a cylinder connector for communicating the compression stroke pressures from cylinders recessed in the engine, the cylinder connector having a first connector end in communication with the gauge assembly and a second connector end extendable to engage the recessed cylinders.
- 2. (Original) The assembly of Claim 1 wherein the gauge controller comprises a detected pressure storage circuit for storing at least five compression stroke pressures.
- 3. (Original) The assembly of Claim 1 wherein the comparator circuit is operative to compare first and last compression stroke pressures detected in a cylinder, and for deriving the pressure variances therebetween.
- 4. (Original) The assembly of Claim 3 wherein the gauge display is operative to generate a comparison of the first and last compression stroke pressures.

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- 5. (Original) The assembly of Claim 4 wherein the gauge display represents the compression stroke pressures as bar graphs.
- 6. (Cancelled)
- 7. (Currently Amended) The assembly of Claim 1 6 wherein the cylinder connector includes a substantially rigid tube.
- 8. (Original) The assembly of Claim 1 wherein the gauge sensor comprises a plurality of sensors each in communication with the gauge controller and a dedicated cylinder.
- 9. (Original) The assembly of Claim 1 wherein the gauge sensor comprises a sensor alternately connectable to a plurality of cylinders.
- 10. (Original) The assembly of Claim 1 wherein the gauge controller comprises a detected pressure storage circuit operative to store detected pressure level(s) in each cylinder.
- 11. (Original) The assembly of Claim 1 wherein the comparator circuit is operative to compare pressure levels in different cylinders.
- 12. (Currently Amended) A compression gauge assembly for diagnosing cylinder pressures of an engine cylinder(s), the assembly comprising:
  - a) a gauge sensor in communication with the engine cylinder(s), the gauge sensor being operative to detect compression stroke pressures within the cylinder(s);
  - b) a gauge controller in communication with the gauge sensor, the gauge controller including a comparator circuit operative to compare at least one detected compression stroke pressure within the cylinder(s) with a reference compression stroke pressure and to derive the cylinder pressures based thereon; and
  - c) a gauge display in communication with the gauge controller for displaying the derived cylinder pressures; and[[.]]
  - d) a cylinder connector for communicating the compression stroke pressures from cylinders recessed in the engine, the cylinder connector having a first connector end in communication with the gauge

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assembly and a second connector end extendable to engage the recessed cylinders.

- 13. (Original) The assembly of Claim 12 wherein the gauge controller comprises a detected pressure storage circuit for storing at least five compression stroke pressures.
- 14. (Original) The assembly of Claim 12 wherein the comparator circuit is operative to compare a last compression stroke pressure detected in a cylinder with the reference compression stroke pressure, and for deriving the cylinder pressures therebetween.
- 15. (Original) The assembly of Claim 12 wherein the reference compression stroke pressure is a maximum compression stroke pressure allowed by the cylinders.
- 16. (Cancelled)
- 17. (Currently Amended) The assembly of Claim <u>12</u> <del>16</del> wherein the cylinder connector includes a substantially rigid tube.
- 18. (Original) The assembly of Claim 12 wherein the gauge sensor comprises a plurality of sensors each in communication with the gauge controller and a dedicated cylinder.
- 19. (Original) The assembly of Claim 12 wherein the gauge sensor comprises a sensor alternately connectable to a plurality of cylinders.
- 20. (Original) The assembly of Claim 12 wherein the gauge controller comprises a detected pressure storage circuit operative to store detected pressure level(s) in each cylinder.
- 21. (Original) The assembly of Claim 12 wherein the comparator circuit is operative to compare pressure levels in different cylinders.
- 22. (Currently Amended) A method of diagnosing an engine cylinder(s) with a compression gauge assembly, the compression gauge assembly having a gauge sensor, a gauge display, a cylinder connector and a gauge controller with a comparator circuit, the method comprising the steps of:
  - a) communicating compression stroke pressures from within the engine cylinder(s) to the gauge assembly via the cylinder connector;

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- <u>b) a)</u> detecting <u>the communicated</u> compression stroke pressures within the engine cylinder(s) with the gauge sensor;
- <u>c) b)</u> comparing the detected compression stroke pressures within the cylinder(s) with the comparator circuit of the gauge controller;
- <u>d) e)</u> deriving pressure variances between the detected compression stroke pressures with the comparator circuit; and
  - <u>e) d</u>) displaying the derived pressure variances on the gauge display.
- 23. (Currently Amended) The method of Claim 22 25 wherein step d) e) comprises comparing first and last compression stroke pressures detected in a cylinder with the comparator circuit to derive the pressure variances therebetween.
- 24. (Currently Amended) A method of diagnosing cylinders in an engine with a compression gauge assembly, the compression gauge having a gauge sensor, a gauge display, a cylinder connector and a gauge controller with a comparator circuit, the method comprising the steps of:
- a) communicating compression stroke pressures from within the engine cylinder(s) to the gauge assembly via the cylinder connector;
- <u>b) a)</u> detecting <u>the communicated</u> compression stroke pressures within the engine cylinder(s) with the gauge sensor;
- c) b) comparing at least one detected compression stroke pressure within the cylinder(s) against a reference compression stroke pressure with the comparator circuit of the gauge controller;
- <u>d) e)</u> deriving cylinder pressures based on the comparison between the detected compression stroke pressure and the reference compression stroke pressure with the comparator circuit; and
  - e) d) displaying the cylinder[[s]] pressures on the gauge display.
- 25. (Currently Amended) The method of Claim 24 wherein step <u>d</u>) <u>e</u>) comprises comparing a last compression stroke pressure detected in a cylinder against the reference compression stroke pressure to derive the cylinder pressure.

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- 26. (New) The assembly of Claim 5 wherein the gauge display is operative to simultaneously display the compression stroke pressures of a plurality of cylinders.
- 27. (New) The assembly of Claim 14 wherein the gauge display is operative to generate a comparison of the last compression stroke pressure and the reference compression stroke pressure.
- 28. (New) The assembly of Claim 27 wherein the gauge display represents the compression stroke pressures as bar graphs.
- 29. (New) The assembly of Claim 28 wherein the gauge display is operative to simultaneously display the compression stroke pressures of a plurality of cylinders.